MARINE INFORMATION

METEOROLOGICAL AND OCEANOGRAPHIC DATA BUOYS

The Data Buoy Cooperation Panel working under the auspices of the World Meteorological Organization and the Intergovernmental Oceanographic Commission maintains arrays of instrumented drifting and moored buoys in the world oceans. These automated buoys make routine measurements and transmit their data in real-time through satellites. Such measurements include wind speed and direction, air temperature, air humidity, atmospheric pressure, currents, sea surface temperature, but also water temperatures at various depths to 500 meters. All buoys transmit their positions along with the data.

Both drifting and moored buoys provide valuable information to many communities, including fishermen and mariners.

What are the buoys used for?

Weather forecasts. Meteorological models routinely assimilate observations from various sources (including satellites, weather balloons, land stations, ships, and data buoys) around the planet to make their national forecasts. Buoy data are crucial because they are deployed in ocean areas where no other source of valuable data is available.

Marine forecast. For similar reasons, buoy data are essential for producing improved marine forecasts.

Assistance to fisheries. Sea surface temperature is an important tool to find many different species of fish. The buoys provide this information to weather centres which produce charts of sea surface temperature and distribute them to fishermen. Knowing where to look for fish saves both fuel and time. Using data buoys and other instruments such as sub-surface floats, oceanographic models now permit the prediction of the impact of El Niño events and other signals on the ocean environment; these predictions can help fishermen to plan their operations in advance.

Safety at sea. Several nations have successfully used surface wind and ocean current information from the buoys to help locate missing or overdue boats.

Climate prediction, meteorological and oceanographic research. Researchers use the data from the buoys to learn how to predict future changes in the world's climate. For example, buoys were deployed to learn how to predict the El Niño / Southern Oscillation phenomenon which causes disruptions in the ocean surface winds and the upper ocean temperature pattern and leads to seasonal climate variations and changes in fish migration patterns in many areas of the world oceans.

Advice to fishermen and mariners

DO NOT pick up drifting buoys. Buoy operators do not refurbish the drifting buoys once deployed. They would continue to transmit their position along with erroneous meteorological and oceanographic data from the deck of the ship.

DO keep watch for the moored buoys at sea; they should be visible on radar and can be avoided. During fishing operations keep a safe distance from the buoys in order to avoid entanglement of your net with the buoy.

DO NOT moor to, damage, or destroy any part of the buoys.

DO educate your fellow community about the use of data buoys.